

In the Claims

Claims 3, 5-8, 10-12, 15, 17-19, 24, 26-30, 33 and 35-37 have been canceled without prejudice.

Claims 1, 9, 13-14, 16, 22-23, 25 and 31-34 have been amended and Claim 38 has been added as follows:

1. (Currently Amended) A substrate for attaching an array of biological or chemical analytes, said substrate comprises:

- a) a porous, ~~predominantly~~ inorganic layer, derived from a ~~frit layer~~ of individual particles, adhered to a flat, rigid, non-porous, inorganic understructure; and
- b) said porous inorganic layer ~~characterized as~~ having a plurality of interconnected voids of a predetermined mean size ~~of not less than about 0.1 μm~~ dispersed therethrough, and having void channels that extend through to a top surface of said porous inorganic layer; and
- c) ~~said inorganic material and contents of said voids exhibit a high contrast in their indices of refraction relative to each other such as to scatter light.~~

2. (Original) The substrate according to claim 1, further comprising a uniform coating of a binding agent over at least a part of the surface area of said voids and said top surface of said porous inorganic layer.

Claim 3. (Canceled)

4. (Currently Amended) The substrate according to claim 3, wherein ~~said binding agent is anionic polymer is either gamma-aminopropyltriethoxysilane or polylysine gamma-aminopropylsilane.~~

Claims 5-8. (Canceled)

9. (Currently Amended) The substrate according to claim 1, wherein ~~said porous inorganic layer material is characterized as a material that is non-absorbing and transparent to light when in the form of a solid of an amorphous or single crystal material.~~

Claims 10-12. (Canceled)

13. (Currently Amended) The substrate according to claim 1, wherein said porous inorganic layer has a thickness of ~~at least~~ about 5 μm .

14. (Currently Amended) The substrate according to claim 1, wherein said inorganic material particles have a predetermined mean size in the range of about ~~0.3 μm to about 15 μm~~ 3.5 μm.

Claim 15 (Canceled)

16. (Currently Amended) The substrate according to claim 1, wherein said voids have a predetermined mean size in the range of about 0.3 μm to about ~~15 μm~~ 20 μm.

Claims 17-19. (Canceled)

20. (Original) The substrate according to claim 1, wherein said porous inorganic layer is characterized as having a microstructure that produces a sensitivity of fluorescent molecules of at least one order of magnitude greater than that of a comparable, non-porous substrate.

21. (Original) The substrate according to claim 1, wherein said porous inorganic layer has a microstructure derived from at least a partial sintering of said individual particles.

22. (Currently Amended) A device for performing multiple assays, said device includes:

a planar substrate comprising a porous inorganic layer, derived from ~~a frit layer of~~ individual particles, adhered to a flat, rigid, non-porous, inorganic understructure ~~having a coefficient of thermal expansion compatible with that of said porous inorganic layer;~~

~~said porous inorganic layer characterized as forming a networked matrix having a plurality of interconnected voids of a predetermined mean size and having void channels that extend through to a top surface of said porous inorganic layer;~~

~~said porous inorganic layer contiguous inorganic material and contents of said voids exhibit a high contrast in their indices of refraction relative to each other such as to scatter light; and having a coating of a binding agent over at least a portion of a surface area of said voids and said top surface of said porous inorganic layer.~~

23. (Currently Amended) The device according to claim 22, wherein said porous inorganic layer is characterized ~~eharaeterizes~~ as having a microstructure that produces a sensitivity of fluorescent molecules of at least one order of magnitude greater than that of a comparable, non-porous substrate.

Claim 24. (Canceled)

25. (Currently Amended) The device according to claim 22, wherein said binding agent ~~eationie polymer~~ is either ~~gamma-aminopropyltriethoxysilane or polylysine~~ gamma-aminopropylsilane.

Claims 26-30. (Canceled)

31. (Currently Amended) The device according to claim 22, wherein said porous inorganic layer has a thickness of ~~at least~~ about 5 μm .

32. (Currently Amended) The device according to claim 22, wherein said inorganic material particles have a predetermined mean size in the range of about ~~0.3 μm to about 15 μm~~ 3.5 μm .

Claim 33. (Canceled)

34. (Currently Amended) The device according to claim 22, wherein said voids have a predetermined mean size in the range of about 0.3 μm to about ~~7 μm 20 μm~~ .

Claims 35-37. (Canceled)

38. (New) A substrate for attaching an array of biological or chemical analytes, said substrate comprises:

- a) a flat, rigid, non-porous, inorganic understructure;
- b) a porous inorganic layer, derived from one or more tape-casted frit layers of individual particles, adhered to said flat, rigid, non-porous, inorganic understructure; and
- c) said porous inorganic layer having a plurality of interconnected voids of a predetermined mean size dispersed therethrough, and having void channels that extend through to a top surface of said porous inorganic layer.